Wetland Delineation Report
For
Tubies Site
Straban Township
Adams County, Pennsylvania
Fall 2007
RETTEW Project No. 07-07964-001

Prepared for:

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1.0 INTRODUCTION

RETTEW Associates, Inc. (RETTEW) has prepared this wetland delineation report for Mr. George Tubies to document the locations and characteristics of jurisdictional wetland habitats and "waters of the United States"/"waters of the Commonwealth" that exist on his property at 2390 York Road, Gettysburg, PA (Tubies Site). The following information outlines the review of the published resource materials, existing site conditions, and results of the field investigation.

2.0 SITE DESCRIPTION

The Tubies Site is located in Straban Township, Adams County, Pennsylvania and appears on the Gettysburg, Pennsylvania U.S. Geological Survey (USGS) 7.5-minute quadrangle (Latitude N 39° 51' 15.1" and Longitude W 77° 09' 33.7") (Figure 1). The site is situated in an agricultural and residential area east of Gettysburg, PA along the Route 30 corridor. The 14.1 acre site was under scrutiny for a wetland disturbance that occurred to a large wetland swale on the eastern end of the site. The remainder of the site currently exists as periodically mowed fields and successional woods. A homestead is situated along York Road (Route 30) on the south side of the site. The wetland swale in question drains to the east, off-site via a culvert under Granite Station Road. The swale contributes to the Swift Run drainage. The Pennsylvania Code, Title 25, Chapter 93, Water Quality Standards assigns the Swift Run basin a quality designation of Warm Water Fishery (WWF). The Pennsylvania Fish and Boat Commission (PAFBC) does not list this drainage as one that supports wild trout reproduction. A small, man-made pond is situated around the center of the site, and captures stormwater from the site, and discharges into the aforementioned wetland swale. The proposed project involves restoring the disturbed wetland so the client can obtain necessary municipal approvals for an industrial building proposed for the northwestern corner of the site. The wetland investigation focused on the area around the disturbed wetlands, or the eastern two-thirds of the site.

3.0 METHODS

RETTEW used the Atypical Situations-criteria outlined in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) in conjunction with the 1992 Regulatory Guidance Letter. The routine criteria was not applicable due to the clearing of vegetation and re-grading that had occurred on the site. This approach attempts to determine what vegetative community, soil characteristics, and hydrologic regime existed prior to the disturbance, and uses the results to identify and delineate wetlands. Transects were laid out perpendicular to the swale that was excavated to drain the wetlands on the site. Sample Points were located at every change in vegetative community, grade, or other significant feature along the transect. Data on soils, vegetation, and hydrology were collected on November 6, 2007 during an on-site investigation conducted by qualified wetland biologists. Dominant species were determined by visually estimating the percent cover of each species within a plot of approximately 30 ft. radius for trees, and a 5 ft. radius for shrubs and herbs and vines. Species nomenclature and wetland indicator status follows that of Reed (1988). Rhoads and Block (2000), Newcomb (1977), and Harlow (1957) were

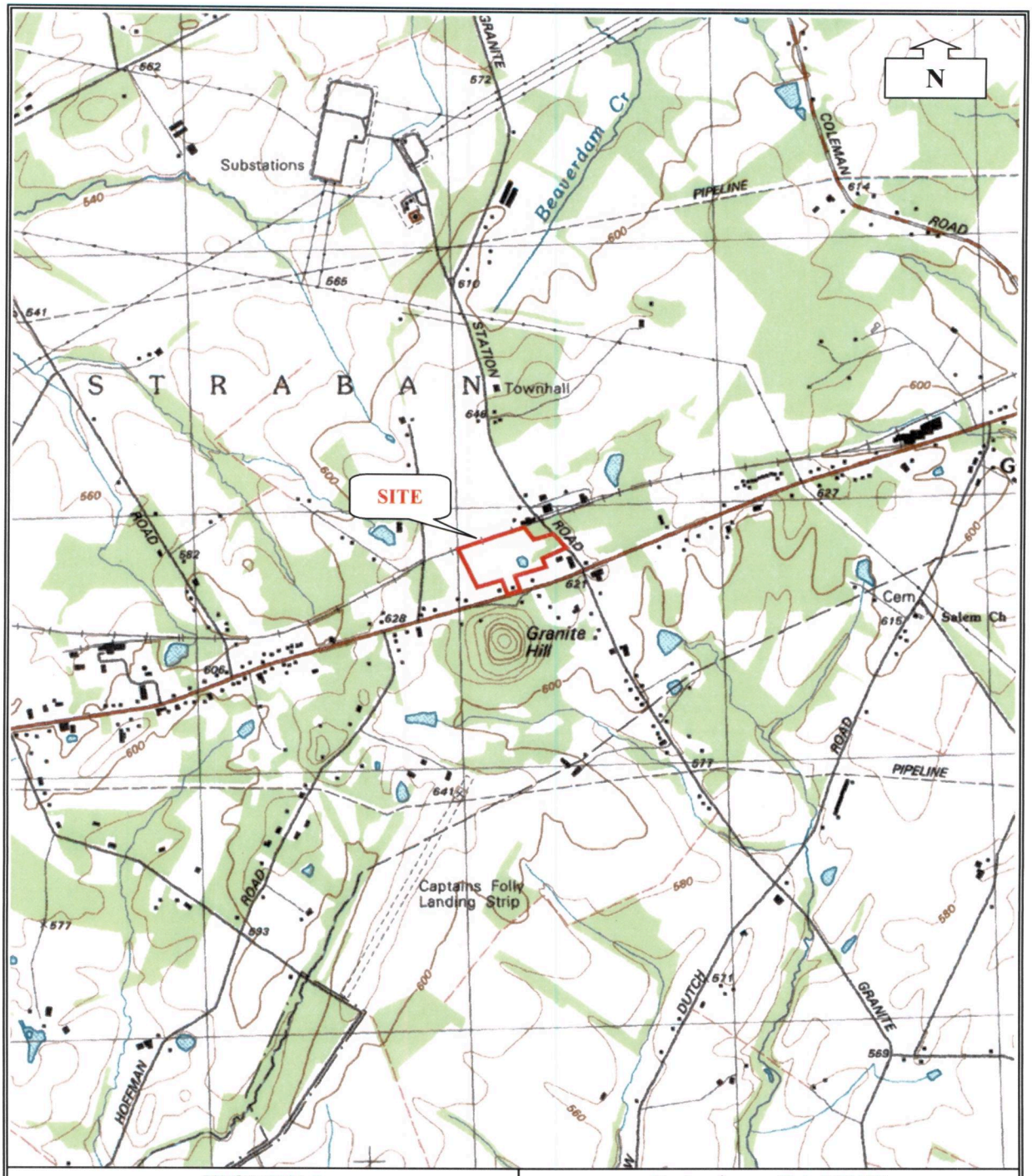

FIGURE 1 **Site Location Map** Tubies Site Straban Township, Adams County, PA	Gettysburg, PA USGS 7.5-minute quadrangle RETTEW Project No. 07-07964-001 Scale 1:24,000

the major taxonomic references used to identify vegetation species. Hydrophytic species are those wetland plants with indicator statuses of OBL (obligate wetland), FACW (facultative wetland), or FAC (facultative). Species listed as FACU (facultative upland) are more indicative of upland areas and generally do not occur in wetlands. Some species are not considered to be reliable indicators of wetland or upland conditions; these are designated as NI (no indicator). A plus or minus sign indicates the species tend to be at the drier (-), or wetter (+) end of its status category. Soils were examined by using a sharp-shooter shovel to a depth of 18 inches or refusal. Soil colors were determined using a Munsell Soil Color Chart. Hydric soils generally have chromas (the denominator of the fraction at the end of the soil color description) of 1 or 0 in unmottled soils, or of 2 or less in mottled soils. Mottling or redoximorphic concentrations are the apparent accumulation of Fe and Mn oxides within the soil profile. This feature is usually an indication of periodically, seasonally or permanently saturated soil conditions (Vepraskas 1994). Indicators of wetland hydrology (saturated or inundated soils) along with signs of previous prolonged inundation during the growing season were also noted at each sampling location. All wetland habitats were classified according to the U.S. Fish and Wildlife Service, *Classification of Wetland and Deepwater Habitats of the United States* (Cowardin *et al.* 1979). Field data sheets are located in Appendix A. Photographs of the wetlands and adjacent upland areas are provided in Appendix B.

3.1 Global Positioning System

RETTEW located the wetland/upland boundary, sample points and other features within the property using a Trimble Pro XH and GeoXT, Global Positioning System (GPS) receivers during the site visit on November 6, 2007. The instrument settings used were: a) Elevation Mask of 15 degrees to limit lowest angle of satellite acceptance to 15 degrees, b) Signal Noise Ratio Mask 6 to minimize weak signal strength, c) PDOP Mask 6 to control the geometry of satellite constellations, and d) Mode Setting Overdetermined 3D which requires a minimum of five satellites for acceptable readings. Logging interval was set at 1 second with typically a minimum of 60 readings collected at each point (Trimble Navigation 1994).

Data collected in the field were downloaded to a personal computer for differential correction using GPS Pathfinder Office software (Version 3.1). Correction files were obtained from a dedicated base station located in West Chester, PA. Mission planning, parameter settings, and post processing typically allow an accuracy of less than (<) 1 meter.

The precision of GPS collected data is subject to variation caused by canopy cover, atmospheric interference, time of day, and satellite geometry. GPS collected data should not be used in situations involving high property values, controversial projects, or in situations where legal questions may arise (Hook et al. 1995).

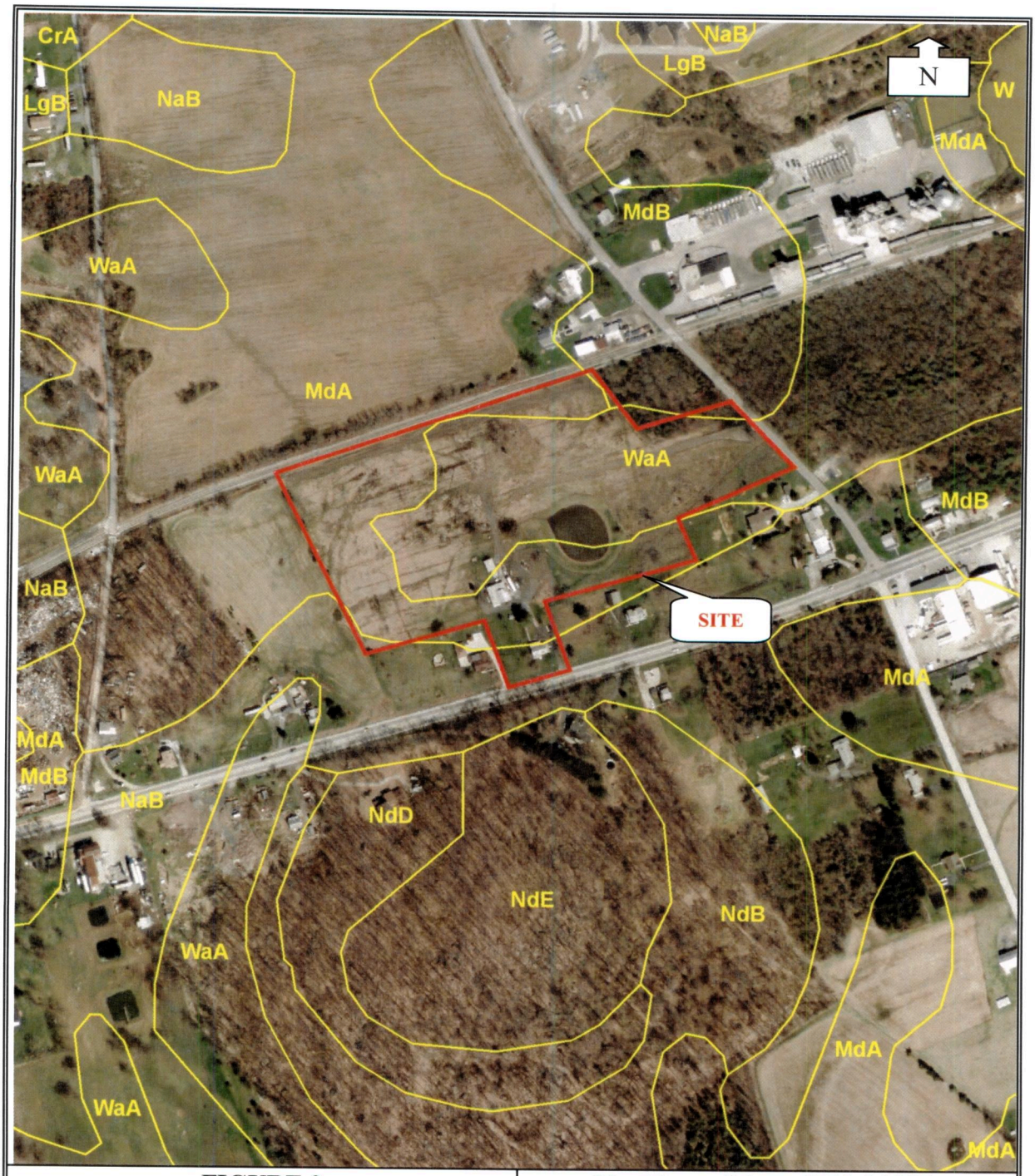

FIGURE 2
Soils Map
Tubies Site
Straban Township,
Adams County, Pennsylvania

Mount Lucas silt loams (MdA & MdB),
Neshaminy channery silt loam (NaB) &
Watchung silt loam (WaA)

RETTEW Project No. 07-07964-001
Scale 1:5,000

FIGURE 3
National Wetlands Inventory Map
Tubies Site
Straban Township,
Adams County, Pennsylvania

RETTEW Project No. 07-07964-001
Scale 1:5,000

4.0 REVIEW OF EXISTING DOCUMENTATION

4.1 Topography and Drainage

The Tubies Site is comprised of relatively flat to gently sloping topography. Review of the Gettysburg, Pennsylvania USGS 7.5-minute quadrangle map and site plans revealed that the existing topography on the entire site ranges between 630 and 610 feet in elevation above mean sea level. All surficial drainage on the site is conveyed downslope to the east into the pond and wetland swale, or off-site via sheet flow.

4.2 Soil Survey

The Soil Survey of Adams County (USDA NRCS Soil Data Mart) indicates Mount Lucas silt loam, 0-8% slopes (MdA & MdB), Neshaminy channery silt loam, 3-8% slopes (NaB) and Watchung silt loam, 0-3% slopes (WaA) as the soil phases mapped within the Tubies Site (Figure 2). The Mount Lucas series consists of deep to very deep, moderately well to somewhat poorly drained soils found on uplands. The Neshaminy series consists of deep to very deep, well drained soils found on uplands. The Watchung series consists of very deep, poorly drained soils found on upland flats and in depressions. The Adams County Natural Resource Conservation Service lists Watchung silt loam a hydric soil, and the Mount Lucas and Neshaminy series as soils that have inclusions of Watchung hydric soils in depressions.

4.3 National Wetlands Inventory Map

A review of the U.S. Fish and Wildlife Service's National Wetland Inventory (NWI) Map for the Gettysburg, PA USGS 7.5-minute quadrangle indicates that one palustrine, open-water, intermittently exposed/permanent, diked/impounded (POWZh) wetland is located on the Tubies Site (Figure 3). This was identified as the small man-made pond situated on the site. Note that NWI maps are designed for general planning purposes only and typically do not show all the wetland or watercourse resources within any given area.

5.0 AGENCY COORDINATION

An online search of the Pennsylvania Natural Diversity Inventory (PNDI) database, conducted on December 10, 2007 indicated that there are no known impacts to threatened and endangered species expected from the proposed project. The search receipt is included in Appendix C. Agency coordination letters were also sent to the PAFBC and the U.S. Fish and Wildlife Service (USFWS) on December 10, 2007 to notify them of the project and ask for their concurrence of the PNDI results. Agency response letters have not been received to date, but will be forwarded upon arrival.

6.0 RESULTS AND DISCUSSION

The following descriptions provide a summary of each wetland area, including their location and characteristics. The site plan depicting the wetland boundaries, photographs and soil pit locations is provided in the Wetland Delineation Plan located in Appendix D.

6.1 Wetlands

RETTEW's investigation determined that two wetland areas totaling 1.107 acres exist within the area of investigation of the Tubies Site. The vegetation, soil characteristics, and wetland hydrologic indicators of Sample Points #1, 2, 4-10 & 12 were determined to be within a jurisdictional wetland.

WETLAND #1; PEM (1.002 acres)

Sample Points #1, 2 & 4-10 were located in the disturbed swale on the eastern side of the site. All of the points were located south of the stone driveway that accesses the site off of Granite Station Road. The vegetation and hydrology in this area were disturbed by the recent grading and clearing that had taken place prior to the site visit. See the sample point data sheets in Appendix A for the locations of each point. The dominant vegetative species included *Quercus palustris* (pin oak, FACW), *Cirsium arvense* (Canada thistle, FACU), *Allium vineale* (wild garlic, FACU-), *Panicum dichotomiflorum* (fall panicgrass, FACW-), *Plantago lanceolata* (narrowleaf plantain, UPL), *Typha latifolia* (broadleaf cattail, OBL), *Juncus effusus* (common rush, FACW+), *Euthamia graminifolia* (flat-top goldentop, FAC), *Cornus amomum* (silky dogwood, FACW), *Juncus tenuis* (poverty rush, FAC-), *Rumex crispus* (curly dock, FACU), *Plantago major* (common plantain, FACU), *Erigeron annuus* (eastern daisy fleabane, FACU), *Solidago* sp. (goldenrod), *Polygonum* sp. (smartweed), *Setaria faberi* (Japanese bristlegrass, UPL), *Bidens frondosa* (devil's beggartick, FACW), *Echinochloa crus-galli* (barnyardgrass, FACU), and *Scirpus cyperinus* (woolgrass, FACW+). The soil mapped at all the points was Watchung silt loam (WaA). See the data sheets in Appendix A for the soil descriptions of each point. Primary indicators of wetland hydrology included wetland drainage patterns and secondary indicators included oxidized rhizospheres within 12 inches and positive FAC-neutral tests. Based on the presence of hydric soil characteristics and primary and secondary indicators of wetland hydrology, Sample Points #1, 2 & 4-10 was determined to be within palustrine emergent (PEM) wetlands.

Sample Points #3 & 11 were located in disturbed upland areas adjacent the swale identified as Wetland #1. Similar to the wetland sample points, the vegetation and hydrology at these two points were disturbed. The dominant vegetative species were *Cirsium arvense*, *Rumex crispus*, *Plantago lanceolata*, *Setaria faberi*, *Physalis subglabrata* (ground-cherry, NI), and *Taraxacum officinale* (common dandelion, FACU-). The soil is mapped as WaA. See the data sheets in Appendix A for the soil descriptions of each point. Both points lacked any primary or secondary indicators of wetland hydrology. Based on the lack of dominant hydrophytic vegetation, lack of

hydric soil characteristics and lack of primary indicators of wetland hydrology, Sample Points #3 & 11 were determined to be within nonwetland areas.

WETLAND #2; PEM (0.105 acres)

Sample Point #12 was located in a fallow field area north of the constructed stone driveway on the north side of the site. The dominant vegetative species were *Scirpus cyperinus*, *Cornus racemosa* (grey dogwood, FAC-), *Agrimonia parviflora* (harvestlice, FAC), *Agrostis alba* (redtop, FACW), *Ulmus rubra* (slippery elm, FAC), *Setaria faberi* and *Vernonia noveboracensis* (New York ironweed, FACW+). The soil is mapped as WaA. The A-horizon had a soil matrix color of 10YR 3/1 with no redoximorphic concentrations at a depth of 0 to 18 inches. The soil profile consisted of a dry clay loam. Primary indicators of wetland hydrology included a wetland drainage pattern. Secondary indicators included oxidized rhizospheres within 12 inches and a positive FAC-neutral test. Based on the dominant hydrophytic vegetation, hydric soil characteristics and primary and secondary indicators of wetland hydrology, Sample Point #12 was determined to be within a PEM wetland.

Sample Point #13 was located within a graded wet swale that drains into the west side of the pond, around the center of the site. The dominant vegetative species was *Plantago lanceolata*. The soil is mapped as WaA. The A-horizon had a soil matrix color of 10YR 3/2 with no redoximorphic concentrations at a depth of 0 to 6 inches. The B-horizon had a soil matrix color of 10YR 3/2 with common, distinct 5GY 3/1 redoximorphic concentrations at a depth of 6 to 18 inches. The soil profile consisted of a dry clay loam. There were no primary or secondary indicators of wetland hydrology. Based on the lack of dominant hydrophytic vegetation and lack of primary or secondary indicators of wetland hydrology, Sample Point #13 was determined to be within a nonwetland area.

6.2 "Waters of the United States" / "Waters of the Commonwealth"

RETTEW's investigation determined that no jurisdictional stream channels exist on the Tubies Site. The wetland swale identified on the site as Wetland #1 drains off the site to the east and contributes to the Swift Run drainage. The Pennsylvania Code, Title 25, Chapter 93, Water Quality Standards assigns the Swift Run basin a quality designation of Warm Water Fishery (WWF).

7.0 CONCLUSIONS

RETTEW identified two wetlands containing 1.107 acres within the area of investigation on the Tubies Site. The soil pit sample points and wetland flags were located in the field and plotted on project mapping.

Wetland #1 is identified as a palustrine emergent (PEM) wetland. This wetland includes a swale that drains the pond located around the center of the site. Wetland #1 has undergone significant disturbance and is the subject of the violation that occurred on the property. Resolution of the

violation includes restoring this wetland. Wetland #1 drains off-site to the east, through a culvert under Granite Station Road. Wetland #1 contains 1.002 acres within the site.

Wetland #2 is identified as a PEM wetland that is located in a low-lying area within a fallow field north of the driveway on the north side of the site. The wetland continues offsite to the east and contains 0.105 acres within the area of investigation.

Wetlands, man-made ponds, and stream channels, intermittent or perennial, are regulated by the United States Army Corps of Engineers (USACOE) and the Pennsylvania Department of Environmental Protection (PADEP) and any encroachments, fills, or crossing of these areas will require the proper State and Federal permits. Data on which this report is based are on file at RETTEW Associates' Lancaster, PA office.

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8.0 DISCLAIMER

The terms "wetlands" and "waters of the United States"/"waters of the Commonwealth" as used in this report are RETTEW's interpretation of state and federal laws concerning wetland and watercourse identification.

The definition and delineation of wetlands on any specific site are subject to interpretation by various public agencies. RETTEW will, to the best of its ability, accurately delineate the wetlands limits based on current regulations and the firm's experience with the public agencies. RETTEW cannot, however, guarantee that the public agencies involved will concur with those limits. A joint agreement of the United States Army Corps of Engineers and the Pennsylvania Department of Environmental Protection is required for a jurisdictional wetland boundary to be set in the Commonwealth of Pennsylvania. All wetland boundaries in this report are estimates of the jurisdictional wetland limits unless otherwise stated.

All mention of regulations and laws are RETTEW's interpretation of state and federal regulations and/or laws, and should not be taken as legal advice.

9.0 LITERATURE CITED

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* US Department of Interior, Fish and Wildlife Service, Biological Services Program FWS/OBS-79/31, 103 pp.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi 39180-0631.

Harlow, W. H. 1957. *Trees of the Eastern and Central United States and Canada.* Dover Publications, Inc. New York, 288 pp.

Hook, D.D., B. Davis, J. Scott, and J. Strubble. 1995. *Locating Delineated Wetland Boundaries in Coastal South Carolina Using Global Positioning Systems*. Wetlands 15(1):31-36.

Newcomb, L. 1977. *Newcomb's Wildflower Guide*. Little, Brown and Company, New York, 490 pp.

Reed, P.B. 1988. *National List of Plant Species That Occur in Wetlands: Northeast (Region I).* National Ecology/Research Center, U.S. Fish and Wildlife Service, St. Petersburg, FL.

Rhoads, A. F. and T.A. Block. 2000. *The Plants of Pennsylvania: An Illustrated Manual.* University of Pennsylvania Press, Philadelphia 1061 pp.

United States Department of Agriculture: NRCS. *Soil Data Mart*. Viewed on November 20, 2007 http://soildatamart.nrcs.usda.gov/Default.aspx

Vepraskas, M. J. 1994. *Redoximorphic Features for Identifying Aquic Conditions*. North Carolina Agricultural Research Service. North Carolina State University. Raleigh, North Carolina. Technical Bulletin 301. 33 pp.

10.0 REGULATORY DEFINITIONS

Waters of the United States: are "all waters which are subject to the ebb and flow of the tide and also, waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds of which the use, degradation, or destruction of could affect interstate or foreign commerce". (U. S. Army Corps of Engineers 33 CFR 328.3)

Waters of the Commonwealth: are "All water-courses, streams, bodies of water and their floodways wholly or partly within of forming part of the boundary of this Commonwealth". (PA Department of Environmental Protection Chapter 105.1)

Watercourses: are "Any channel or conveyance of surface water having defined bed and banks, whether natural or artificial, with perennial or intermittent flow". (PA Department of Environmental Protection Chapter 105.1)

Perennial streams: have flowing water year-round during a typical year. The water table is located above the streambed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall (or snowmelt) is supplemental source of water for stream flow (CFR March 9, 2000, page 12898).

Intermittent streams: have flowing water during certain periods of the year and June not have flowing water during dry periods. Groundwater provides water for stream flow. Runoff from rainfall or snowmelt is supplemental source of water.

Ephemeral streams: have flowing water only during and for a short duration after precipitation events in a typical year. They are located above the water table year-round and groundwater is not a source of water for the stream.

Drainage ditches: a linear excavation or depression constructed for the purpose of conveying surface runoff or groundwater from one area to another.

Wetlands: are "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration to support, and that under normal circumstances do support the prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas." (Environmental Protection Agency 40 CFR 230.3 and U. S. Army Corps of Engineers 33 CFR 328.3)

Nonwetlands: are uplands and lowland areas that are neither deepwater aquatic habitats, wetlands, nor other special aquatic sites. They are seldom or never inundated, or if frequently inundated, they have saturated soils for only brief periods during the growing season, and, if vegetated, they normally support a prevalence of vegetation typically adapted for life only in aerobic soil conditions.

APPENDIX A

FIELD DATA SHEETS

APPENDIX A

FIELD DATA SHEETS

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) TAF, BSk, JPK Date: 11/6/07

Project Site: George Tubies Sample ID: S# 1

State: PA County: Adams Township: Straban

Sample Location (Descriptive): East end of site, w/in disturbed

Check Primary Wetland Delineation Guidance Manual: ✓ 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☐ No: ☑

Is the area a potential problem area? Yes: ☑ No: ☐

Describe Disturbance/Problematic Features: wetland violation / grading / fill

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. Quercus palustris	FACW	T	6.		
2.			7.		
3.			8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 100 Results of FAC-neutral Test 100

SOILS

Mapped Series/Phase: WaA Taxonomic Subgroup: Typic Albaqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-6	10YR 2/1		
B 6-18	10YR 4/1		

_____ Mapping unit listed on a local hydric soil list?
_____ Histic epipedon present?
_____ Sulfidic Odor?
_____ Gleyed or Low-Chroma colors?
_____ Mapped Series/Phase Confirmed in Field?
_____ Mapping unit list on the national hydric soil list?
_____ Sesquioxide Concretions?
_____ High Organic A-horizon in Sandy Soils?
_____ Organic Streaking/Spodic Horizon?
_____ Aquic/peraquic moisture regime?
_____ Alpha, Alpha Dipyridal Test

Remarks: moist clay loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) >16

Primary Indicators: _____ Secondary Indicators (2 or more required): _____

_____ Observed Inundation
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
✓ Sediment Deposits
_____ Wetland Drainage Pattern
_____ Oxidized Rhizospheres within 12 inches
✓ Water-stained Leaves
✓ FAC-neutral Test
_____ Hydrologic Field Data (site specific)

Remarks: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes ☑ No ☐
Hydric Soils Present? Yes ☑ No ☐
Wetland Hydrology Present? Yes ☑ No ☐

Is this sample location within a wetland? Yes ☑ No ☐

Wetland Classifications: PEM

Additional comments: Wet #1

- sparse vegetation due to previous condition

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) IAF, ESK, JPK Date: 11/6/07

Project Site: George Tubie Site Sample ID: S# 2

State: PA County: Adams Township: Straban

Sample Location (Descriptive): East end of site, s of graded swale

Check Primary Wetland Delineation Guidance Manual: ____ 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☐ No: ☑

Is the area a potential problem area? Yes: ☑ No: ☐

Describe Disturbance/Problematic Features: ~~wetland~~ disturbance/graded area

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. Cirsium arvense	FACU	H	6.		
2. Allium vineale	FACU-	H	7.		
3. Panicum dichotomiflorum	FACW-	H	8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 33 Results of FAC-neutral Test 33

SOILS

Mapped Series/Phase: WaA Taxonomic Subgroup: Typic Albaqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-18	10 YR 2/1	2.5 Y 5/2	F/D

____ Mapping unit listed on a local hydric soil list?
____ Histic epipedon present?
____ Sulfidic Odor?
____ Gleyed or Low-Chroma colors?
____ Mapped Series/Phase Confirmed in Field?
____ Mapping unit list on the national hydric soil list?
____ Sesquioxide Concretions?
____ High Organic A-horizon in Sandy Soils?
____ Organic Streaking/Spodic Horizon?
____ Aquic/peraquic moisture regime?
____ Alpha, Alpha Dipyridal Test

Remarks: dry silt/clay loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) >/

Primary Indicators: 1 Secondary Indicators (2 or more required): ✓

____ Observed Inundation
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
✓ Wetland Drainage Pattern
____ Oxidized Rhizospheres within 12 inches
____ Water-stained Leaves
____ FAC-neutral Test
____ Hydrologic Field Data (site specific)

Remarks: ____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes ☐ No ☑
Hydric Soils Present? Yes ☑ No ☐
Wetland Hydrology Present? Yes ☐ No ☑

Is this sample location within a wetland? Yes ☑ No ☐

Wetland Classifications: PEM Wet #1

Additional comments:

- highly disturbed area, sparse vegetation and disturbed hydrology due to grading

RETTEW

We answer to you.

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

Field Investigator(s) TAF, BSE, JPK Date: 11/6/07

Project Site: George Tubie site Sample ID: S# 3

State: PA County: Adams Township: Straban

Sample Location (Descriptive): East end of site, South (upslope) of wet swale

Check Primary Wetland Delineation Guidance Manual: ____ 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☐ No: ☑

Is the area a potential problem area? Yes: ☑ No: ☐

Describe Disturbance/Problematic Features: regraded area

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. Cirsium arvense	FACU	H	6.		
2. Rumex crispus	FACW	H	7.		
3. Plantago lanceolata	UPL	H	8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: WaA Taxonomic Subgroup: Typic Albaqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-5	10YR 3/1	—	—
B 5-16	10YR 4/2	—	—

____ Mapping unit listed on a local hydric soil list?
____ Histic epipedon present?
____ Sulfidic Odor?
____ Gleyed or Low-Chroma colors?
____ Mapped Series/Phase Confirmed in Field?
____ Mapping unit list on the national hydric soil list?
____ Sesquioxide Concretions?
____ High Organic A-horizon in Sandy Soils?
____ Organic Streaking/Spodic Horizon?
____ Aquic/peraquic moisture regime?
____ Alpha, Alpha Dipyridal Test

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 78

Primary Indicators: ✓ Secondary Indicators (2 or more required): ✓

____ Observed Inundation
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Wetland Drainage Pattern
____ Oxidized Rhizospheres within 12 inches
____ Water-stained Leaves
____ FAC-neutral Test
____ Hydrologic Field Data (site specific)

Remarks: no 1° or 2°

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes ☐ No ☑

Hydric Soils Present? Yes ☑ No ☐

Wetland Hydrology Present? Yes ☐ No ☑

Is this sample location within a wetland? Yes ☐ No ☑

Wetland Classifications: ____

Additional comments:

25

- upslope of swale, few wetland characteristics, unlike graded swale

RETTEW

We answer to you.

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

Field Investigator(s) TAF, BSK, JPK Date: 11/6/07

Project Site: Geesa Tubie Site Sample ID: S# 4

State: PA County: Adams Township: Straban

Sample Location (Descriptive): South end of site

Check Primary Wetland Delineation Guidance Manual: ✓ 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☐ No: ☑

Is the area a potential problem area? Yes: ☑ No: ☐

Describe Disturbance/Problematic Features: Regraded area

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. Cirsium arvense	FACU	H	6.		
2. Alliaria petiolata	FACU-	H	7.		
3. Plantago lanceolata	UPL	H	8.		
4. Typha latifolia (cornus)	OBL	H	9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 25 Results of FAC-neutral Test 25

SOILS

Mapped Series/Phase: WnA Taxonomic Subgroup: Typic Albaqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-10	10YR 3/1	-	
B 10-18	10YR 3/1	10YR 4/3	F/D

_____ Mapping unit listed on a local hydric soil list?
_____ Histic epipedon present?
_____ Sulfidic Odor?
_____ Gleyed or Low-Chroma colors?
_____ Mapped Series/Phase Confirmed in Field?
_____ Mapping unit list on the national hydric soil list?
_____ Sesquioxide Concretions?
_____ High Organic A-horizon in Sandy Soils?
_____ Organic Streaking/Spodic Horizon?
_____ Aquic/peraquic moisture regime?
_____ Alpha, Alpha Dipyridal Test

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8

Primary Indicators: _____ Secondary Indicators (2 or more required): _____

_____ Observed Inundation
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
✓ Wetland Drainage Pattern
_____ Oxidized Rhizospheres within 12 inches
_____ Water-stained Leaves
_____ FAC-neutral Test
_____ Hydrologic Field Data (site specific)

Remarks: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes ☐ No ☑
Hydric Soils Present? Yes ☑ No ☐
Wetland Hydrology Present? Yes ☐ No ☑

Is this sample location within a wetland? Yes ☑ No ☐

Wetland Classifications: PEM

wet #1

Additional comments:

- highly disturbed area, lack of wetland characteristics due to grading

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) TAF, BSK, JPK Date: 11/6/07
Project Site: George Tubic Site Sample ID: S# 5
State: PA County: Adams Township: Straban
Sample Location (Descriptive): near center of site, in wetland sample

Check Primary Wetland Delineation Guidance Manual: ✓ 1987 Corps of Engineers Method w/1992 Guidance
Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐
Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☐ No: ☑
Is the area a potential problem area? Yes: ☑ No: ☐
Describe Disturbance/Problematic Features: wetland violation / fill / regrading

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. Juncus effusus	FACW+	H	6.		
2. Euthamia graminifolia	FAC	H	7.		
3. Cornus ammomum	FACW	H	8.		
4. Juncus tenuis	FAC-	H	9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 75 Results of FAC-neutral Test 66

SOILS

Mapped Series/Phase: WAA Taxonomic Subgroup: Typic Albaquults

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-11	10YR 2/1	—	—
B 11-18	10YR 3/1	—	—

_____ Mapping unit listed on a local hydric soil list?
_____ Histic epipedon present?
_____ Sulfidic Odor?
_____ Gleyed or Low-Chroma colors?
_____ Mapped Series/Phase Confirmed in Field?
_____ Mapping unit list on the national hydric soil list?
_____ Sesquioxide Concretions?
_____ High Organic A-horizon in Sandy Soils?
_____ Organic Streaking/Spodic Horizon?
_____ Aquic/peraquic moisture regime?
_____ Alpha, Alpha Dipyridal Test

Remarks: dry silt/clay loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8
Primary Indicators: 1 Secondary Indicators (2 or more required): 1

_____ Observed Inundation
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
✓ Wetland Drainage Pattern
_____ Oxidized Rhizospheres within 12 inches
_____ Water-stained Leaves
✓ FAC-neutral Test
_____ Hydrologic Field Data (site specific)

Remarks: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes ☑ No ☐
Hydric Soils Present? Yes ☑ No ☐
Wetland Hydrology Present? Yes ☑ No ☐
Is this sample location within a wetland? Yes ☑ No ☐
Wetland Classifications: PEM/SS

Additional comments: Wet #1 also disturbed, but more wetland veg present

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) TAF, BSK, JSK Date: 11/6/09

Project Site: George Tubie Site Sample ID: S#6

State: PA County: Adams Township: Straban

Sample Location (Descriptive): N-central portion of site, adj to Store drive

Check Primary Wetland Delineation Guidance Manual: ✓ 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☐ No: ☑

Is the area a potential problem area? Yes: ☑ No: ☐

Describe Disturbance/Problematic Features: regrading / fill

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. Rumex crispus	FACW	H	6.		
2. Plantago major	FACW-	H	7.		
3. Cirsium arvense	FACW	H	8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: W.A Taxonomic Subgroup: Typic Albaqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-18	10YR 3/1	—	—

_____ Mapping unit listed on a local hydric soil list?
_____ Histic epipedon present?
_____ Sulfidic Odor?
_____ Gleyed or Low-Chroma colors?
_____ Mapped Series/Phase Confirmed in Field?

_____ Mapping unit list on the national hydric soil list?
_____ Sesquioxide Concretions?
_____ High Organic A-horizon in Sandy Soils?
_____ Organic Streaking/Spodic Horizon?
_____ Aquic/peraquic moisture regime?
_____ Alpha, Alpha Dipyridal Test

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) >18

Primary Indicators: 1 Secondary Indicators (2 or more required): 1

_____ Observed Inundation
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
✓ Sediment Deposits
✓ Wetland Drainage Pattern

✓ Oxidized Rhizospheres within 12 inches
_____ Water-stained Leaves
_____ FAC-neutral Test
_____ Hydrologic Field Data (site specific)

Remarks: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes ☐ No ☑
Hydric Soils Present? Yes ☑ No ☐
Wetland Hydrology Present? Yes ☑ No ☐

Is this sample location within a wetland? Yes ☑ No ☐

Wetland Classifications: PEM

Additional comments: Wet #1

- sparse vegetation due to previous grading

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) TAF, BJK, JPK Date: 11/6/07
Project Site: George Tubie Site Sample ID: S# 7
State: PA County: Adams Township: Straban
Sample Location (Descriptive): North-central region of site, adj to driveway

Check Primary Wetland Delineation Guidance Manual: ✓ 1987 Corps of Engineers Method w/1992 Guidance
Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐
Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☐ No: ☑
Is the area a potential problem area? Yes: ☑ No: ☐
Describe Disturbance/Problematic Features: grading/fill

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. no vegetation			6.		
2.			7.		
3.			8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) N/A Results of FAC-neutral Test N/A

SOILS

Mapped Series/Phase: WnA Taxonomic Subgroup: Typic Albaqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-8	10 YR 3/2		
B 8-18	10 YR 4/1	10 YR 5/6	F/D

_____ Mapping unit listed on a local hydric soil list?
_____ Histic epipedon present?
_____ Sulfidic Odor?
_____ Gleyed or Low-Chroma colors?
_____ Mapped Series/Phase Confirmed in Field?
_____ Mapping unit list on the national hydric soil list?
_____ Sesquioxide Concretions?
_____ High Organic A-horizon in Sandy Soils?
_____ Organic Streaking/Spodic Horizon?
_____ Aquic/peraquic moisture regime?
_____ Alpha, Alpha Dipyridal Test

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8
Primary Indicators: 1 Secondary Indicators (2 or more required): —

_____ Observed Inundation
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
✓ Wetland Drainage Pattern
_____ Oxidized Rhizospheres within 12 inches
_____ Water-stained Leaves
_____ FAC-neutral Test
_____ Hydrologic Field Data (site specific)

Remarks: none

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes☐ No☑
Hydric Soils Present? Yes☑ No☐
Wetland Hydrology Present? Yes☐ No☑
Is this sample location within a wetland? Yes☑ No☐
Wetland Classifications: PEM

Additional comments: Wet #1

- No vegetation, disturbed area adj. to driveway, graded area

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) TAF, BJK, JPK Date: 11/6/01

Project Site: George Yubie site Sample ID: S# 8

State: PA County: Adams Township: Straban

Sample Location (Descriptive): near center of site,

Check Primary Wetland Delineation Guidance Manual: ✓ 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☐ No: ☑

Is the area a potential problem area? Yes: ☑ No: ☐

Describe Disturbance/Problematic Features: wetland violation / fill / grading

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. Euthamia graminifolia	FAC	H	6.		
2. Erigeron annuus	FACU	H	7.		
3. Carex gynandra	FACW	sh	8.		
4. Solidago sp.	—	H	9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 66 Results of FAC-neutral Test 50

SOILS

Mapped Series/Phase: WaA Taxonomic Subgroup: Typic Albaqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-18	10YR 3/1	—	—

_____ Mapping unit listed on a local hydric soil list?
_____ Histic epipedon present?
_____ Sulfidic Odor?
_____ Gleyed or Low-Chroma colors?
_____ Mapped Series/Phase Confirmed in Field?
_____ Mapping unit list on the national hydric soil list?
_____ Sesquioxide Concretions?
_____ High Organic A-horizon in Sandy Soils?
_____ Organic Streaking/Spodic Horizon?
_____ Aquic/peraquic moisture regime?
_____ Alpha, Alpha Dipyridal Test

Remarks: moist silt / clay loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) >18

Primary Indicators: 1 Secondary Indicators (2 or more required): 1

_____ Observed Inundation
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
✓ Wetland Drainage Pattern
_____ Oxidized Rhizospheres within 12 inches
✓ Water-stained Leaves
✓ FAC-neutral Test
_____ Hydrologic Field Data (site specific)

Remarks: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes ☑ No ☐
Hydric Soils Present? Yes ☑ No ☐
Wetland Hydrology Present? Yes ☑ No ☐

Is this sample location within a wetland? Yes ☑ No ☐

Wetland Classifications: PEM/SS

Additional comments:

Wet #1

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) TAF, BJK, JPK Date: 11/6/07

Project Site: George Tubie Site Sample ID: S# 9

State: PA County: Adams Township: Straban

Sample Location (Descriptive): S-central end of site, w/in graded swale

Check Primary Wetland Delineation Guidance Manual: ✓ 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☐ No: ☑

Is the area a potential problem area? Yes: ☑ No: ☐

Describe Disturbance/Problematic Features: wetland violation / regarding

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. Polygonum s.	—	H	6.		
2. Leersia oryzoides	FACW-	H	7.		
3. Juncus crispus	FACW	H	8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 50 Results of FAC-neutral Test 50

SOILS

Mapped Series/Phase: WaA Taxonomic Subgroup: Typic Albaqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-8	10YR 3/1	—	—
B 8-18	2.5Y 4/1	2.5Y 5/6	F/D

_____ Mapping unit listed on a local hydric soil list?
_____ Histic epipedon present?
_____ Sulfidic Odor?
_____ Gleyed or Low-Chroma colors?
_____ Mapped Series/Phase Confirmed in Field?
_____ Mapping unit list on the national hydric soil list?
_____ Sesquioxide Concretions?
_____ High Organic A-horizon in Sandy Soils?
_____ Organic Streaking/Spodic Horizon?
_____ Aquic/peraquic moisture regime?
_____ Alpha, Alpha Dipyridal Test

Remarks: dry very clayey loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) >18

Primary Indicators: 1 Secondary Indicators (2 or more required): 2

_____ Observed Inundation
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
✓ Wetland Drainage Pattern
✓ Oxidized Rhizospheres within 12 inches
_____ Water-stained Leaves
✓ FAC-neutral Test
_____ Hydrologic Field Data (site specific)

Remarks: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes ☑ No ☐
Hydric Soils Present? Yes ☑ No ☐
Wetland Hydrology Present? Yes ☑ No ☐

Is this sample location within a wetland? Yes ☑ No ☐

Wetland Classifications: PEM

Additional comments:

- WA #1, regraded swale, disturbed vegetation/hydrology

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) TAF, BJK, JPK. Date: 11/6/07

Project Site: George Tubie site Sample ID: S# 10

State: PA County: Adams Township: Straban

Sample Location (Descriptive): SW end of site, w/in disturbed wet swale

Check Primary Wetland Delineation Guidance Manual: ✓ 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☐ No: ☑

Is the area a potential problem area? Yes: ☑ No: ☐

Describe Disturbance/Problematic Features: wetland violation / regrading

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. Erigeron annuus	FACU	H	6. Scirpus cyperinus	FACW+	H
2. Setaria faberii	UPL	H	7.		
3. Panicum dichotomiflorum	FACW-	H	8.		
4. Bidens frondosa	FACW	H	9.		
5. Echinochloa crus-galli	FACU	H	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 50 Results of FAC-neutral Test 50

SOILS

Mapped Series/Phase: WaA Taxonomic Subgroup: Typic Aeric Albaqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-5	10 yr 3/1	—	—
B 5-18	2.5 Y 4/1	2.5 Y 5/6	F/D

_____ Mapping unit listed on a local hydric soil list?
_____ Histic epipedon present?
_____ Sulfidic Odor?
_____ Gleyed or Low-Chroma colors?
_____ Mapped Series/Phase Confirmed in Field?
_____ Mapping unit list on the national hydric soil list?
_____ Sesquioxide Concretions?
_____ High Organic A-horizon in Sandy Soils?
_____ Organic Streaking/Spodic Horizon?
_____ Aquic/peraquic moisture regime?
_____ Alpha, Alpha Dipyridal Test

Remarks: Mat very clayey silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8

Primary Indicators: 1 Secondary Indicators (2 or more required): 2

_____ Observed Inundation
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
✓ Wetland Drainage Pattern
✓ Oxidized Rhizospheres within 12 inches
_____ Water-stained Leaves
✓ FAC-neutral Test
_____ Hydrologic Field Data (site specific)

Remarks: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes ☑ No ☐
Hydric Soils Present? Yes ☑ No ☐
Wetland Hydrology Present? Yes ☑ No ☐

Is this sample location within a wetland? Yes ☑ No ☐

Wetland Classifications: PEM1

Additional comments:

Wet #1

- w/in disturbed swale

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) TAF, BJK, JPK Date: 11/6/07

Project Site: George Tubic Site Sample ID: S# 11

State: PA County: Adams Township: Straban

Sample Location (Descriptive): West end of site, with disturbed/fill area

Check Primary Wetland Delineation Guidance Manual: ✓ 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☐ No: ☑

Is the area a potential problem area? Yes: ☑ No: ☐

Describe Disturbance/Problematic Features: highly disturbed area/fill/grading

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. Setaria fabe	UPL	H	6.		
2. Physalis Subglabrata	N1	H	7.		
3. Plantago lanceolata	UPL	H	8.		
4. Taraxacum officinale	FACU-	H	9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 6 Results of FAC-neutral Test 6

SOILS

Mapped Series/Phase: WaA Taxonomic Subgroup: Typic Albaqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-10	10YR 4/3		
B 10-18	10YR 4/6	10YR 2/1	F/D

_____ Mapping unit listed on a local hydric soil list?
_____ Histic epipedon present?
_____ Sulfidic Odor?
_____ Gleyed or Low-Chroma colors?
_____ Mapped Series/Phase Confirmed in Field?
_____ Mapping unit list on the national hydric soil list?
_____ Sesquioxide Concretions?
_____ High Organic A-horizon in Sandy Soils?
_____ Organic Streaking/Spodic Horizon?
_____ Aquic/peraquic moisture regime?
_____ Alpha, Alpha Dipyridal Test

Remarks: dry silt loam / clay (a)

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) >18

Primary Indicators: _____ Secondary Indicators (2 or more required): _____

_____ Observed Inundation
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Wetland Drainage Pattern
_____ Oxidized Rhizospheres within 12 inches
_____ Water-stained Leaves
_____ FAC-neutral Test
_____ Hydrologic Field Data (site specific)

Remarks: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes☐ No☑
Hydric Soils Present? Yes☐ No☑
Wetland Hydrology Present? Yes☐ No☑

Is this sample location within a wetland? Yes☐ No☑

Wetland Classifications: _____

Additional comments:

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) TAF, BSK, JPK Date: 11/6/07

Project Site: George Tubie Site Sample ID: S#12

State: PA County: Adams Township: Straban

Sample Location (Descriptive): N end of site, N of driveway, fallow field

Check Primary Wetland Delineation Guidance Manual: ✓ 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☑ No: ☐

Is the area a potential problem area? Yes: ☐ No: ☑

Describe Disturbance/Problematic Features: scrub fill

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. Scirpus cyperinus	FACW+	H	6. Solanum fuberii	UPL	H
2. Cornus (grey) racemosa	FAC-	sh	7. Vernonia noveboracensis	FACW+	H
3. Agrimonia parviflora	FAC	H	8.		
4. Agrostis alba	FACW	H	9.		
5. Ulmus rubra	FAC	SH	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 71 Results of FAC-neutral Test 60

SOILS

Mapped Series/Phase: WaA Taxonomic Subgroup: Typic Albaqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-18	10YR 3/1		

_____ Mapping unit listed on a local hydric soil list?
_____ Histic epipedon present?
_____ Sulfidic Odor?
_____ Gleyed or Low-Chroma colors?
_____ Mapped Series/Phase Confirmed in Field?
_____ Mapping unit list on the national hydric soil list?
_____ Sesquioxide Concretions?
_____ High Organic A-horizon in Sandy Soils?
_____ Organic Streaking/Spodic Horizon?
_____ Aquic/peraquic moisture regime?
_____ Alpha, Alpha Dipyridal Test

Remarks: dry clay loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8

Primary Indicators: 1 Secondary Indicators (2 or more required): 2

_____ Observed Inundation
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
✓ Wetland Drainage Pattern
✓ Oxidized Rhizospheres within 12 inches
_____ Water-stained Leaves
✓ FAC-neutral Test
_____ Hydrologic Field Data (site specific)

Remarks: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes ☑ No ☐
Hydric Soils Present? Yes ☑ No ☐
Wetland Hydrology Present? Yes ☑ No ☐

Is this sample location within a wetland? Yes ☑ No ☐

Wetland Classifications: PEM/SS

Additional comments:

Wet #2

RETTEW

We answer to you.

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

Field Investigator(s) TAF, SJK, JPK Date: 11/6/07

Project Site: George Tracy Site Sample ID: S#13

State: PA County: Adams Township: Straban

Sample Location (Descriptive): W of pond, small graded swale

Check Primary Wetland Delineation Guidance Manual: X 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: ☑ No: ☐

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: ☐ No: ☑

Is the area a potential problem area? Yes: ☑ No: ☐

Describe Disturbance/Problematic Features: recently regraded swale

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. Plantago lanceolata	FUPL	M	6.		
2.			7.		
3.			8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: WaA Taxonomic Subgroup: Typic Albaqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-6	10YR 3/2	—	
B 6-18	10YR 3/2	5GY 3/1	C/D

_____ Mapping unit listed on a local hydric soil list?
_____ Histic epipedon present?
_____ Sulfidic Odor?
_____ Gleyed or Low-Chroma colors?
_____ Mapped Series/Phase Confirmed in Field?
_____ Mapping unit list on the national hydric soil list?
_____ Sesquioxide Concretions?
_____ High Organic A-horizon in Sandy Soils?
_____ Organic Streaking/Spodic Horizon?
_____ Aquic/peraquic moisture regime?
_____ Alpha, Alpha Dipyridal Test

Remarks: dry, very clayey loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8

Primary Indicators: ___ Secondary Indicators (2 or more required): ___

_____ Observed Inundation
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Wetland Drainage Pattern
_____ Oxidized Rhizospheres within 12 inches
_____ Water-stained Leaves
_____ FAC-neutral Test
_____ Hydrologic Field Data (site specific)

Remarks: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes☐ No☑
Hydric Soils Present? Yes☑ No☐
Wetland Hydrology Present? Yes☐ No☑

Is this sample location within a wetland? Yes☐ No☑

Wetland Classifications: _____

Additional comments: highly disturbed area, no sign of wetland veg (carcasses, sprouts)

APPENDIX B

SITE PHOTOGRAPHS

Photo 1 – Facing southeast from near Sample Point #1, viewing Granite Station Road and the culvert that drains Wetland #1.

Photo 2 - Facing east from the man-made swale that drains Wetland #1. This bare earth/ recently graded swale is typical of the habitat found within Wetland #1.

Photo 3 - Facing east from the eastern pond berm, viewing the top of the swale included within Wetland #1.

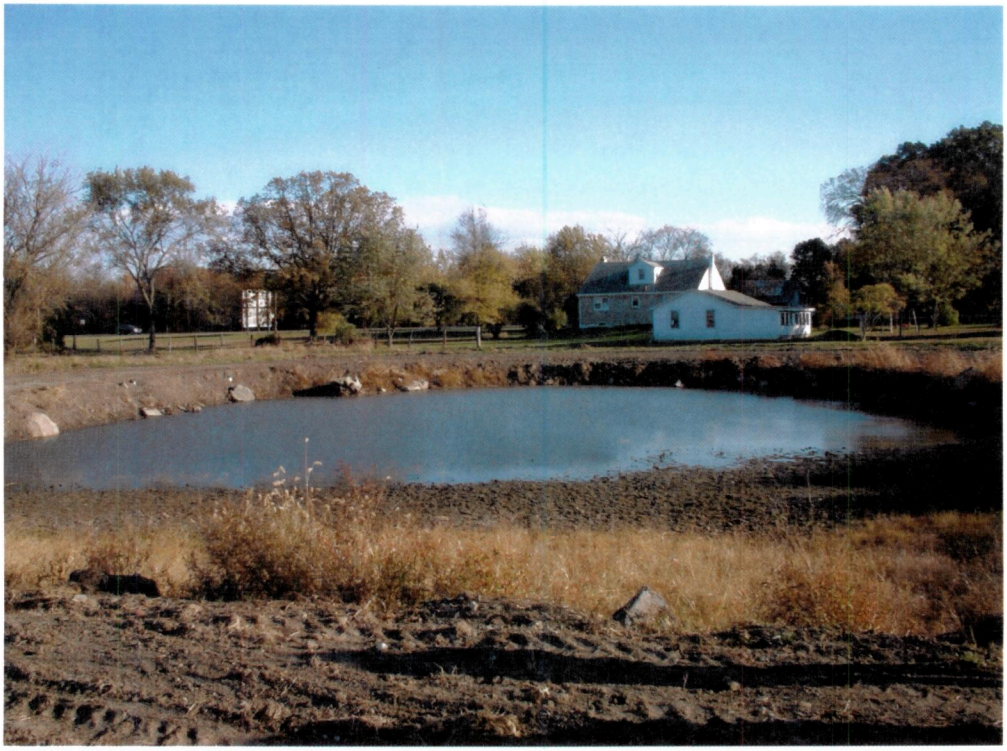


Photo 4 - Facing south from around the center of the site, viewing the pond that drains into Wetland #1.

Photo 5 – Facing east from around the center of the site, viewing the existing stone lane and disturbed uplands that lie to the north of Wetland #1.

Photo 6 – Facing west, viewing the upper, northwestern extent of Wetland #1, adjacent the existing stone driveway.

Photo 7 – Facing north, viewing the low-lying area identified as Wetland #2 that is situated in a fallow field on the north side of the site.

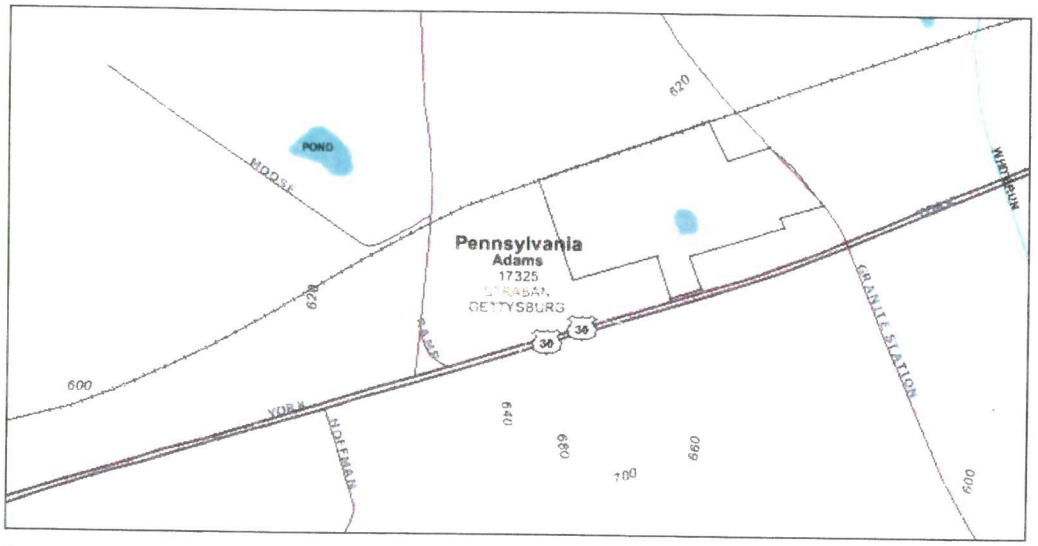
Photo 8 – Facing west from the pond, viewing the graded, upland swale that drains the surrounding uplands into the pond.

APPENDIX C

AGENCY COORDINATION

PNDI Project Environmental Review Receipt
Project Search ID: 20071210120004
Project Name: Tubies Site
Date: 12/10/2007 8:36:32 AM

Project Location



Location Accuracy

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

0 Known Impacts

Under the Following Agencies' Jurisdiction:
None

Project Name: Tubies Site
On Behalf Of: Self
Project Search ID: 20071210120004
Date: 12/10/2007 8:36:18 AM
# of Potential Impacts: 0
Jurisdictional Agency:
Project Category: Development,New commercial/industrial development (store, gas station, factory)
Project Location
Decimal Degrees: 39.85474 N, -77.15799 W
Degrees Minutes Seconds: 39° 51' 17.1" N, 77° 9' 28.8" W
Lambert: 235830.52134859, 312375.26794334 ft
ZIP Code: 17325
County: Adams
Township/Municipality: STRABAN
USGS 7.5 Minute Quadrangle ID: 860
Quadrangle Name: GETTYSBURG
Project Area: 14.1 acres

 APPLICANT INITIALS: JPK

PNDI Project Environmental Review Receipt

Project Search ID: 20071210120004
Project Name: Tubies Site
Date: 12/10/2007 8:36:32 AM

Pennsylvania Natural Diversity Inventory (PNDI) records do **NOT** indicate any known impacts on special concern species and resources within the project area. DEP requires a signed copy of this receipt with permit applications being submitted as indication that an environmental review has been conducted and completed. See DEP PNDI policy at www.naturalheritage.state.pa.us for more information.

Based on the information you provided, no further coordination is required by the Pennsylvania Game Commission, the Pennsylvania Fish and Boat Commission, or the Pennsylvania Department of Conservation and Natural Resources with regard to special concern species, natural communities, or outstanding geologic features. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

Based on the project-specific information you provided, no impacts to federally listed, proposed, or candidate species are anticipated. Therefore, no further consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.* is required with the U.S. Fish and Wildlife Service. Because no take of federally listed species is anticipated, none is authorized. For a list of species that could occur in your project area (but have not been documented in PNDI), please see the county lists of threatened, endangered, and candidate species. A field visit or survey may reveal previously undocumented populations of one or more threatened or endangered species with a project area. If it is determined that any federally listed species occur in your project area, the U.S. Fish and Wildlife Service requires that you initiate consultation to identify and resolve any conflicts. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

These determinations were based on the project-specific information you provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the information you provided does not accurately reflect this project, or if project plans change, DEP and the jurisdictional agencies require that another PNDI review be conducted.

This response represents the most up-to-date summary of the PNDI data files and is good for one(1) year from the date of this PNDI Project Environmental Review Receipt.

DISCLAIMER

The PNDI environmental review website is a preliminary environmental screening tool. It is not a substitute for information obtained from a field survey of the project area conducted by a biologist. Such surveys may reveal previously undocumented populations of species of special concern. In addition, the PNDI only contains information about species occurrences that have actually been reported to the Pennsylvania Natural Heritage Program.

TERMS OF USE

Upon signing into the PNDI environmental review website, and as a condition of using it, you agreed to certain terms of use. These are as follows:

The web site is intended solely for the purpose of screening projects for potential impacts on resources of special concern in accordance with the instructions provided on the web site. Use of the web site for any other purpose or in any other way is prohibited and subject to criminal prosecution under federal and state law, including but not limited to the following: Computer Fraud and Abuse Act of 1986, as amended, 18 U.S.C. Â§ 1030; Pennsylvania Crimes Code, Â§ 4911 (tampering with public records or information), Â§ 7611 (unlawful use of computer and other computer crimes), Â§ 7612 (disruption of service), Â§ 7613 (computer theft), Â§ 7614 (unlawful duplication), and Â§ 7615 (computer trespass).

 APPLICANT INITIALS: JPK

PNDI Project Environmental Review Receipt

Project Search ID: 20071210120004
Project Name: Tubies Site
Date: 12/10/2007 8:36:32 AM

The PNHP reserves the right at any time and without notice to modify or suspend the web site and to terminate or restrict access to it.

The terms of use may be revised from time to time. By continuing to use the web site after changes to the terms have been posted, the user has agreed to accept such changes.

This review is based on the project information that was entered. The jurisdictional agencies and DEP require that the review be redone if the project area, location, or the type of project changes. If additional information on species of special concern becomes available, this review may be reconsidered by the jurisdictional agency.

PRIVACY and SECURITY

This web site operates on a Commonwealth of Pennsylvania computer system. It maintains a record of each environmental review search result as well as contact information for the project applicant. These records are maintained for internal tracking purposes. Information collected in this application will be made available only to the jurisdictional agencies and to the Department of Environmental Protection, except if required for law enforcement purposesâ€"see paragraph below.

This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using this system consents to such monitoring and is advised that if such monitoring reveals evidence of possible criminal activity, system personnel may provide the evidence to law enforcement officials. See Terms of Use.
Print this Project Review Receipt using your Internet browser's print function and keep it as a record of your search.

Signature: Jonathan P. Kasitz

Date: 12-10-07

Project applicant on whose behalf this search was conducted:

APPLICANT

Contact Name: Mr. George Tubies

Address: 2390 York Road

City, State, Zip: Gettysburg, PA 17325

Phone:

Email:

PERSON CONDUCTING SEARCH (if not applicant)

Contact Name: RETTEW - Jon Kasitz

Address: 3020 Columbia Ave.

City, State, Zip: Lancaster, PA 17603

Phone: 717-394-3721

Email: jkasitz@rettew.com

The following contact information is for the agencies involved in this Pennsylvania Natural Diversity Inventory environmental review process. Please read this entire receipt carefully as it contains instructions for how to contact these agencies for further review of this particular project.

APPLICANT INITIALS: JPK

PNDI Project Environmental Review Receipt
Project Search ID: 20071210120004
Project Name: Tubies Site
Date: 12/10/2007 8:36:32 AM

 APPLICANT INITIALS: JPK

APPENDIX D

WETLAND DELINEATION PLAN

SNC.

Timothy A. Falkenstein - Mr. Falkenstein has degrees in Forestry and Environmental Resource Management from the Pennsylvania State University and a Masters Degree in Biology from Shippensburg University. He has attended numerous professional training courses including Wetland Delineation Methodology, Wetland Soils and Hydrology, Identification of grasses, sedges and rushes, and Threatened and Endangered species of New Jersey. In his 15 years of environmental consulting he has conducted numerous wetland delineations at sites throughout Pennsylvania, Ohio, Maryland, Virginia, West Virginia, Delaware, New York, New Jersey, and Tennessee. He regularly conducts field meetings with the USACOE, PADEP, USFWS and other agencies to secure Jurisdictional Determinations and develop appropriate permit applications. He routinely prepares and submits general and joint permit applications for clients including private developers, and municipalities and state infrastructure projects. He has conducted and participated in rare species searches for state and federally listed plants and animals, including *Clemmys muhlenbergii.* His Masters thesis entitled *"Vascular Plant Communities of the Mount Cydonia Ponds in the Michaux State Forest Natural Area, Franklin County, Pennsylvania"* involved plant community classification, topographic descriptions, and soil chemical analysis of 17 temporary autumnal/vernal pools within the Michaux State Forest Natural Area.

Jonathan P. Kasitz – Mr. Kasitz has a bachelor's degree in Biology/Ecology from Millersville University. He has used the 1987 and 1989 *Corps of Engineers Wetland Delineation Manual* for numerous field delineations in PA, MD and NY. He has completed the U.S. Army Corp of Engineers' Wetland Delineation Course. He has also been trained in several different stream assessment protocols, both in the eastern U. S. as well as in the Rocky Mountain region. Mr. Kasitz participated in internships with the PA Department of Environmental Protection in their Water Quality division and with the PA Department of Military and Veteran Affairs as a Biology Tech at Fort Indiantown Gap. He has worked with various government agencies including the National Park Service at Yellowstone NP and the US Forest Service in Colorado. He has performed biological surveys for many different threatened and endangered species across the country. He also completed honors research on the effects of ponds on stream nitrate levels in Lancaster County while at Millersville.

Joel M. Esh – Mr. Esh has an Associate in Specialized Technology Degree in Computer Aided Drafting and Design from York Technical Institute and 5 years of experience at RETTEW. In the past year, he has transferred from the transportation engineering services to the natural sciences group. With transportation engineering, he has directed data collection, prepared traffic engineering analysis, and completed PENNDOT plans involving right-of-way, traffic signals and highway occupancy permits,. With natural sciences, he has assisted in wetland delineations using the 1987 *Corps of Engineers Wetland Delineation Manual* in PA and NY, prepared clearance documents involving USFWS, PGC, and PAFBC, and prepared wetland location maps and restoration plans.